

Amendments to the Claims:

Please amend the claims as follows. Please also amend the claims with the currently amended paragraph and indentation formatting changes to improve the readability of the claims.

1. (currently amended) A storage device [[(1)]] for a host computer system, the storage device comprising:

storage means [[(2, 4, 5)]] for storing information;

intelligent means [[(7)]] for controlling the transfer of information to and from the storage means; and

interfacing means [[(6)]] for interfacing the storage device with the host computer system and via which information is transferred to and from the storage means under the control of said intelligent means,

the storage means comprising:

a storage medium (2) divided into a plurality of non-overlapping partitions including a boot partition and at least one general partition, each said partition being divided into a plurality of sectors, the boot partition including a boot sector containing code for use by where the host computer system seeks code to perform operating system boot of the host computer system;

non-volatile read-only memory (ROM) means [[(4)]] for storing firmware for controlling operation of the storage device; and

volatile random-access-memory (RAM) means [[(5)]];

wherein supervising means is incorporated in said storage means for operating said intelligent means so as to protect information stored in the storage medium [[(2)]], said supervising means being incorporated at least partly as firmware which is stored in said non-volatile ROM means [[(4)]], and wherein the storage device further includes:

a host executable code segment, stored in said storage means, for allowing user control of the supervising means via the host computer system and for controlling initiation of operating system boot in the host computer system; and

loader means stored in the storage means and comprising host executable code for loading said code segment to the host computer system and causing the host computer system to execute the loaded code segment; and

wherein said supervising firmware stored in the ROM means [[(4)]] is adapted to intercept any request for said boot sector, issued by the host computer system in use thereof, and to supply said loader means to the host computer system to satisfy the request.

2. (currently amended) A storage device according to claim 1, wherein the supervising means is provided wholly as firmware which is stored in said non-volatile ROM means [[(4)]] on the storage device [[(1)]].

3. (currently amended) A storage device according to claim 1, wherein the intelligent means comprises a microcontroller [[(7)]] which runs the supervising firmware stored in the ROM means [[(4)]].

4. (currently amended) A storage device according to claim 1, wherein the supervising means operates said intelligent means [[(7)]] so as to allow/restrict/prohibit read/write operations upon the storage medium [[(2)]] depending upon whether information to be read from a sector or written to a sector is operating system information or user information, whether the sector is in the boot partition or in a general partition, and whether if the partition is a general partition the partition is active or inactive.

5. (currently amended) A storage device according to claim 4, wherein the supervising means also ensures that firmware stored on the ROM [[(4)]] means of the storage device [[(1)]], which includes the supervisor firmware, is also protected in that a user, or a user program operating in the host computer system, does not have access to the ROM means [[(4)]] of the storage device itself.

6. (previously presented) A storage device according to claim 1, wherein the supervising means is configured so as to cause a warning to be issued to the user should an attempt be made to perform a prohibited read, write or format operation.

7. (currently amended) A storage device according to claim 1, wherein the supervising means is operable to designate at least one of said partitions partition of the storage device (1) comprises as a Write Many Recoverable (WMR) partition wherein in use, the supervising means operating such that, if a write command is issued to overwrite any information stored in the WMR partition, the updated information is stored elsewhere on the storage medium [(2)], and a pointer to the updated information is provided so the updated information can be accessed as required during the remainder of the session and wherein a system reset causes the pointer to the updated information to be cleared.

8. (currently amended) A storage device according to claim 7, wherein the or each said WMR partition has a Sector Relocation Table (SRT) associated therewith which is held in said volatile RAM means [(5)] of the storage device [(1)], and each entry in a said SRT is a pointer which defines the address of a range of sectors in the WMR partition that have been updated and an address where the updated information is located, this location being within a dedicated area on the storage medium [(2)] which is accessed only by the supervisor means.

9. (currently amended) A storage device according to claim 1, wherein the supervising means is operable to designate at least one of said partitions partition of the storage device (1) comprises as a Write Many Recoverable (MMR WMR) partition wherein, in use, the supervising means operating such that, if a write command is issued to overwrite any information stored in said at least one WMR partition, prior to undertaking said write command said information is copied and stored elsewhere on the storage medium [(2)] to be copied back to said WMR partition when required.

10. (previously presented) A storage device according to claim 1, wherein the loader means is configured to load said code segment to a central processing unit (CPU) of the host computer system for execution by the host computer system prior to operating system boot.

11. (currently amended) A storage device according to claim 10, wherein the loader means is provided in said non-volatile ROM means [[(4)]] of the storage device [[(1)]].

12. (currently amended) A storage device according to claim 10, wherein said loader means is provided in a reserved area on the storage medium [[(2)]], which reserved area is inaccessible to a user or user program.

13. (currently amended) A storage device according to claim 10, wherein the code segment is provided in said non-volatile ROM means [[(4)]] of the storage device.

14. (currently amended) A storage device according to claim 10, wherein the code segment is provided in a reserved area of the storage medium [[(2)]] which is inaccessible to a user or user program, but is accessible to the supervising means, whereby unauthorized alteration of the code segment is prevented.

15. (previously presented) A storage device according to claim 1, wherein said host executable code segment comprises code for enabling the storage device to be set in either "supervised" mode, in which the supervising means is active, or "unsupervised" mode in which the supervising means is not active.

16. (currently amended) A storage device according to claim 15, wherein said code segment, when executed, provides user prompts which allow a user to select said "supervised" mode, or by entry of a password select said "unsupervised" mode, and the code segment is constructed such that, subsequent to mode selection by the user, the code segment transfers a boot program from the boot sector of the storage medium [[(2)]] and causes the host computer system to execute said boot program so as to initiate operating system boot in the host computer system.

17. (currently amended) A storage device according to claim 10, wherein said storage device is a hard disk drive and the storage medium comprises at least one disk platter

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[[(2)]], and said loader means is provided in at least one reserved track of said at least one disk platter [[(2)]].

18. (currently amended) A storage device according to claim 1, wherein the storage device is a hard disk drive [[(1)]].

19. (currently amended) A storage device according to claim 18, wherein the storage medium comprises at least one disk platter [[(2)]].

20. (previously presented) A storage device according to claim 1, wherein the storage device is a solid state storage device.

21. (previously presented) A storage device according to claim 1, wherein the storage device is an optical storage device.

22. (cancelled)

23. (currently amended) A method of controlling access to and modification of information stored on a storage medium [[(2)]] of a storage device [[(1)]] for incorporation in a host computer system wherein the storage device comprises storage means [[(2, 4, 5)]] for storing information, intelligent means [[(7)]] for controlling the transfer of information to and from the storage means, and interfacing means [[(6)]] for interfacing the storage device [[(1)]] with the host computer system and via which information may be transferred to and from the storage means under the control of said intelligent means, and the storage means within the storage device comprises: [[a]] said storage medium [[(2)]] including at least a boot partition divided into a plurality of sectors, the boot partition including a boot sector where the host computer system will seek code to perform operating system boot of the host computer system; non-volatile read-only-memory (ROM) means (4) for storing firmware for controlling operation of the storage device; and volatile random-access-memory (RAM) means [[(5)]]; the method comprising the steps of:

dividing the storage medium (2) into a plurality of non-overlapping partitions including a boot partition and at least one general partition, and dividing each said partition into a plurality of sectors, the boot partition including a boot sector containing code for use by the host computer system to perform operating system boot of the host computer system;

providing supervising means in said storage means for operating said intelligent means [[(7)]] so as to protect information stored in the storage medium [[(2)]], said supervising means being incorporated at least partly as firmware which is stored in said nonvolatile ROM means [[(4)]];

storing in said storage means a host executable code segment for allowing user control of the supervising means via the host computer system and for controlling initiation of operating system boot in the host computer system;

storing in the storage means loader means comprising host executable code for loading said code segment to the host computer system and causing the host computer system to execute the loaded code segment[[;]], said supervising firmware stored in the ROM means [[(4)]] being adapted to intercept any request for said boot sector, issued by the host computer system, and to supply said loader means in response to the request; and

incorporating the storage device in a host computer system, and running the host computer system with the supervising means operating said intelligent means so as to protect information stored in the storage medium.

24. (currently amended) A method according to claim 23, wherein said supervising means is provided for allowing/restricting/prohibiting read/write operations upon the storage medium [[(2)]] depending upon whether information to be read from a sector or written to a sector is operating system information or user information, whether the sector is in the boot partition or in a general partition, and whether if the partition is a general partition the partition is active or inactive, said supervising means being adapted to intercept intercepting each interface request from the host computer system to said storage device [[(1)]]; [[and]]

wherein the loader means loads said code segment to a RAM of a central processing unit (CPU) of the host computer system for execution by the host computer system prior to operating

system boot, and the code segment, when executed, initiates a user interface procedure whereby a user may select a protection option from a selection of protection options; and

whereupon wherein, subsequent to a said selection having been made by the user, said code segment transfers a boot program from the boot sector of the storage medium [[(2)]] and causes the host computer system to execute said boot program so as to initiate operating system boot in the host computer system.

25. (previously presented) A method according to claim 24, wherein said selection of protection options includes the option, by entering a predetermined password, of setting the storage device in "unsupervised mode" whereby interface requests are not intercepted by the supervising means.

26. (currently amended) A method according to claim 25, wherein the selection also includes the option of setting the storage device [[(1)]] in "supervised" mode and designating at least one of said partitions partition as a Write Many Recoverable (WMR) partition wherein, in use, the supervising means operating such that, if a write command is issued to overwrite any resident information stored in said at least one WMR partition by updated information, the updated information is written on the storage medium [[(2)]] in a location other than where any resident information is stored and a pointer to the updated information is provided so that the updated information can be accessed as required during the remainder of a session.

27. (currently amended) A method according to claim 26, further including storing a Sector Relocation Table (SRT) which contains the pointers associated with each said WMR partition in the volatile RAM means [[(5)]] of the storage device [[(1)]].

28. (currently amended) A method according to claim 25, further including the option of setting the storage device [[(1)]] in "supervised" mode and designating at least one of said partitions a Write Many Recoverable (WMR) partition wherein, in use, if a Write command is issued to overwrite any information stored said at least one MMR partition, prior to undertaking said write command said information is copied and stored elsewhere on the storage medium [[(2)]] to be copied back to said WMR partition when required.

29. (new) A computer system, comprising:

- (a) a processor; and
- (b) a storage device communicably coupled to the processor, the storage device comprising:
 - (i) storage means for storing information, comprising:
 - (A) a storage medium including a boot partition divided into a plurality of sectors, the boot partition including a boot sector capable of permitting the processor to seek code at the boot sector to perform operating system boot of the computer system; and
 - (B) non-volatile read-only memory (ROM) means for storing firmware for controlling operation of the storage device
 - (ii) intelligent means for controlling the transfer of information to and from the storage means; and
 - (iii) interfacing means for interfacing the storage device with the processor and via which information is transferred to and from the storage means under the control of the intelligent means,

wherein the storage means further comprises:

 - (C) supervising means for operating the intelligent means to protect information stored in the storage medium, the supervising means being incorporated at least partly as firmware which is stored in the non-volatile ROM means,

wherein the storage device further comprises:

 - (iv) an executable code segment, stored in the storage means, for allowing user control of the supervising means via the processor and for controlling initiation of operating system boot in the computer system; and
 - (v) loader means stored in the storage means and comprising executable code for loading the code segment to the processor and causing the processor to execute the loaded code segment; and

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wherein the supervising firmware stored in the ROM means is adapted to intercept any request for the boot sector, issued by the processor in use thereof, and to supply the loader means to the processor to satisfy the request.